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Preliminary Impact Report Days Creek Project

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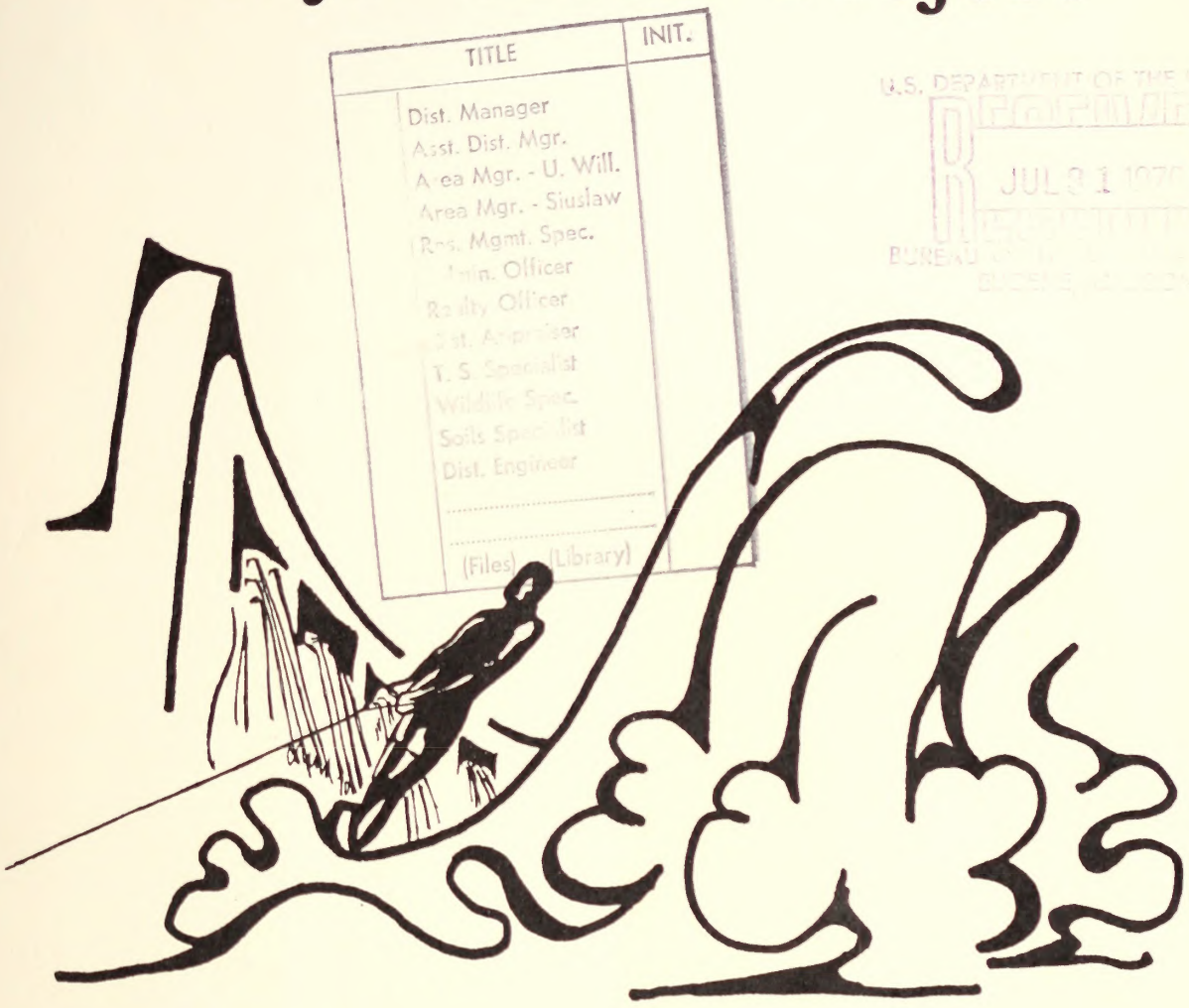

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Portland Service Center
P. O. Box 3861
Portland, Oregon 97208

June 19, 1970

Col. Robert L. Bangert, District Engineer
Portland District, Corps of Engineers
P. O. Box 2946
Portland, Oregon 97208

Dear Colonel Bangert:

Enclosed for your consideration are five copies of BLM's preliminary impact report for the proposed Days Creek Project, South Umpqua River, Oregon. We will welcome your comments concerning this preliminary report by September 1, 1970, if possible. We have forwarded additional copies to other appropriate Federal, State, and County agencies asking for their review and comments prior to completion of our final impact report.

The proposed Days Creek Project lies within the South Umpqua Forest Management Unit of BLM's Roseburg District. All but 80 acres of the BLM land directly affected by the proposed project were reserved for permanent Federal management by passage of the O&C Act of August 28, 1937. The 80 acres of public domain are in the process of being classified for retention in Federal ownership for multiple use management.

BLM administers the largest acreage of land within the proposed project area. If it is determined that recreation features of the proposed project should be administered by a Federal agency, BLM is willing to assume the recreation responsibility for all project land above maximum pool elevation. BLM also is willing to accept the responsibility for other land management functions on project lands other than those needed for operation of the storage features of the project.

Sincerely yours,

Eugene K. Peterson
Chief, Division of Basin Studies

Distribution (attached)

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I. INTRODUCTION

The purpose of this preliminary impact report is to identify the effects that construction of the Corps of Engineers proposed Days Creek Dam and Reservoir Project would have on the resources, programs and lands administered by the Bureau of Land Management, based upon limited available Corps project information.

A. BLM Authority and Responsibilities

Management of the public lands administered by the Bureau of Land Management is in accordance with various public land laws, including the O&C Act of August 28, 1937, 50 Stat. 874; the Taylor Grazing Act of June 28, 1934, 48 Stat. 1269 as amended; the Classification and Multiple Use Act of Sept. 19, 1964 (P. L. 88-607), 78 Stat. 986; and the Federal Water Project Recreation Act of July 9, 1965 (P. L. 89-72).

The O&C Act requires that the revested Oregon and California Railroad grant lands be managed on a perpetual basis for multiple purposes including sustained yield timber management, protecting watersheds, regulating stream flow, stabilizing the economy of local communities and providing recreational facilities for the public. Section 1C of the Federal Water Project Recreation Act

provides for BLM management of recreation on Federal water projects where such lands are classified for retention in Federal ownership. Authority for BLM management of recreational resources on Federal water project areas is clarified and confirmed in a ruling by the Associate Solicitor of the Department of the Interior, dated June 7, 1968.

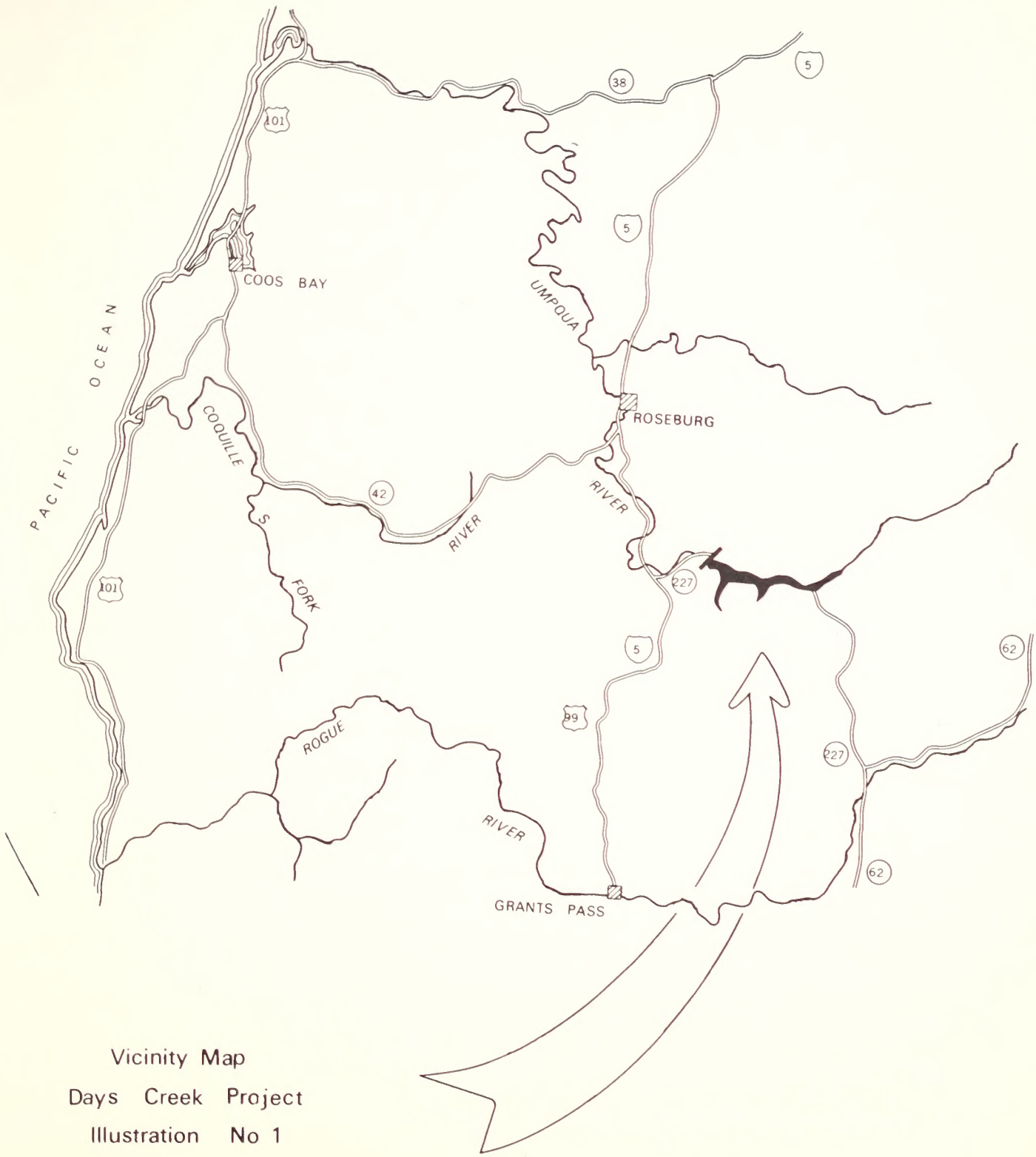
B. Location of Project

The proposed project is located in southeast Douglas County, approximately one mile south of Days Creek, Oregon, on the South Umpqua River. It is in the South Umpqua Master Unit of BLM's Roseburg District.

Primary access to the project is via Interstate 5 to Canyonville and east along State Highway 227 approximately eight miles to Days Creek. Highway 227 is a major travel route to Crater Lake National Park. (See Vicinity Map, Illustration No. 1.)

C. Description of Project

This would be an earth fill dam approximately 280 feet high with provisions for anadromous fish passage. It would be a multipurpose project providing flood control, recreation, irrigation, fisheries benefits, and water quality control. No hydroelectric power production is



Vicinity Map
Days Creek Project
Illustration No 1

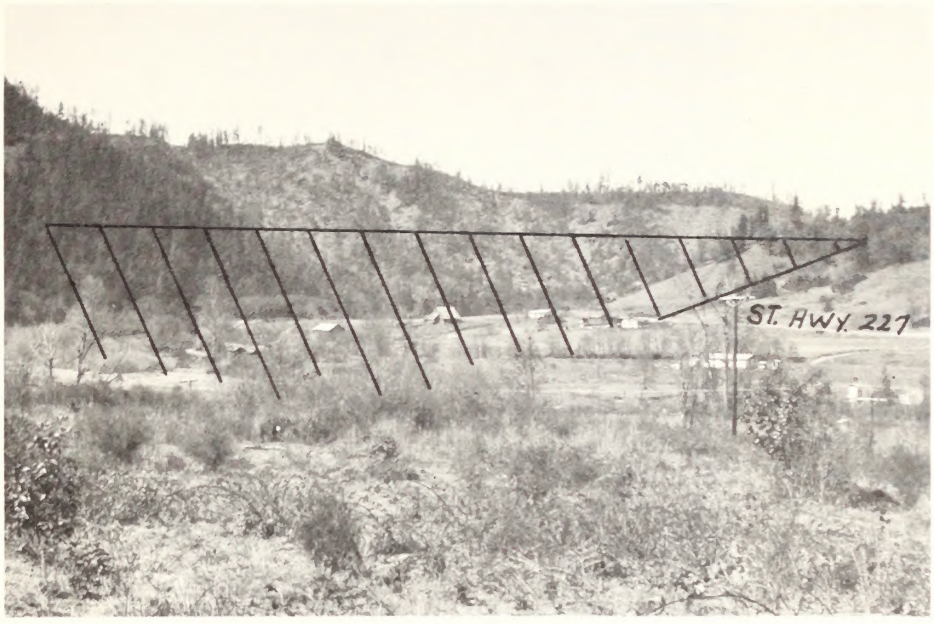
planned. Preliminary information indicates that the maximum pool elevation would be between 1,010 and 1,050 feet. This report is based on a 1,050 foot pool elevation. (See Photos 1 and 2.) No proposed project boundary is presently available. At the 1,050 foot elevation, a 4,900 surface acre reservoir would exist. Average draw down during the recreation season could be about 45 feet.

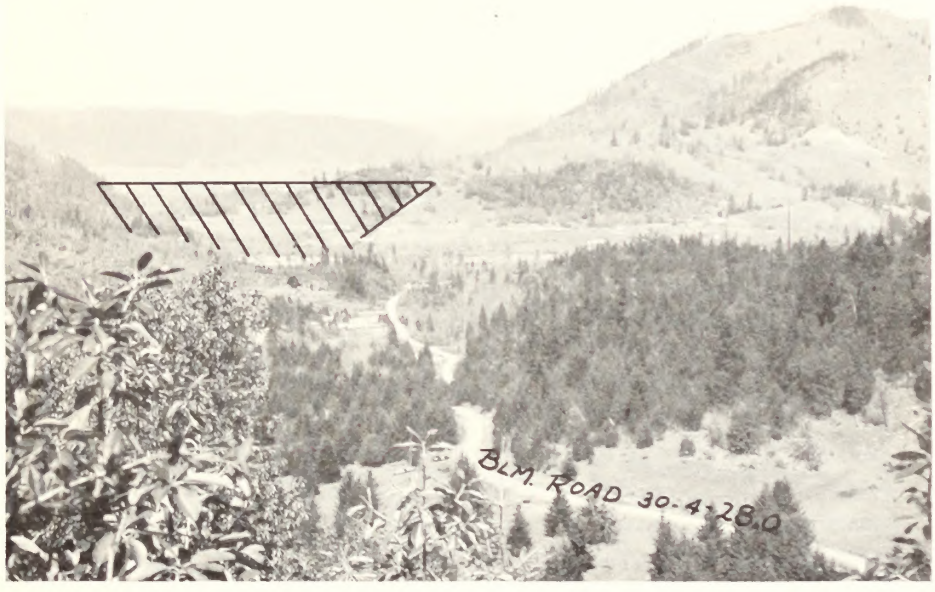
D. BLM Impact Area

The BLM impact area consists of the drainage of the South Umpqua River adjacent to and immediately above the proposed reservoir. The project would have an important impact on BLM lands and resources within this area. Timber harvesting operations would be modified on lands visible from Highway 227 and the reservoir, and also those operations near streams tributary to the affected drainage area. The BLM impact area is outlined on Map No. 1; part of the area can be seen in Photograph No. 3.

E. Climate

The climate in Douglas County is characterized by warm, relatively dry summers with average temperatures in the high 60's and cool, wet winters with average temperatures





PHOTOS 1&2

PROPOSED DAYS CREEK DAM SITE LOOKING UPSTREAM

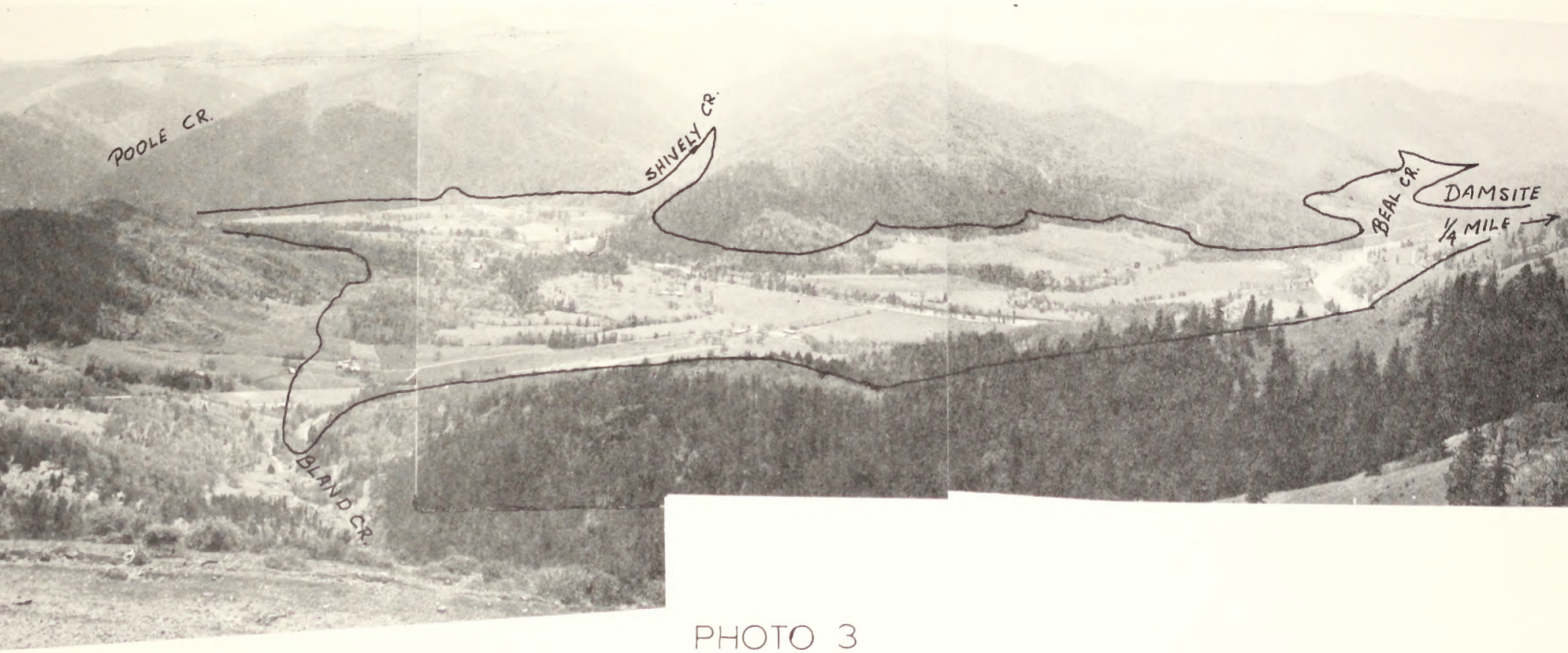


PHOTO 3

VIEW FROM BLAND MT. LOOKOUT SHOWING APPROXIMATELY ONE-THIRD OF PROPOSED RESERVOIR AREA

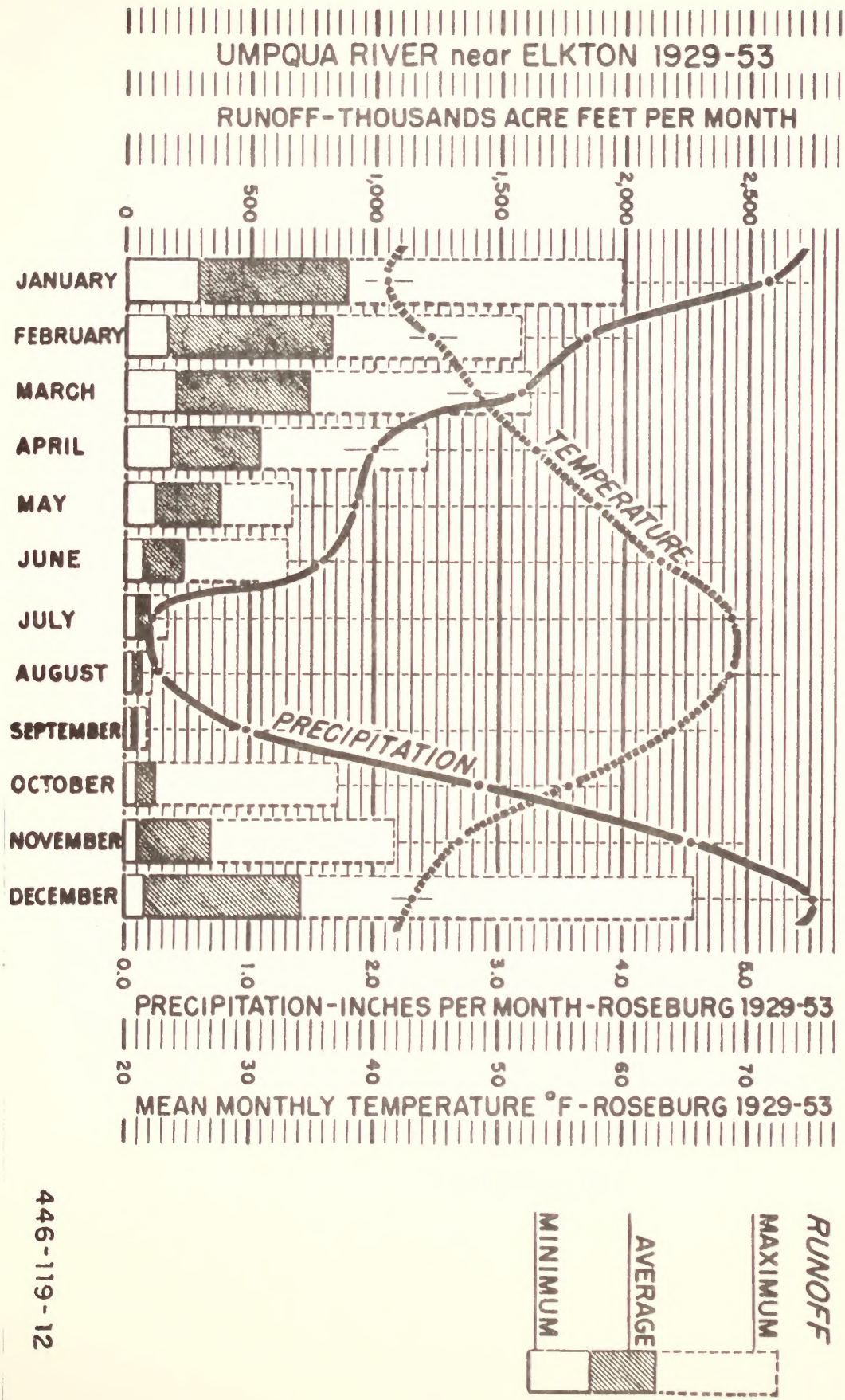
in the 40's at the lower elevations. Temperature extremes at Riddle, about 12 miles west of the dam site, range from an all time low of -3° F. to a high of 110° F. However, the long term average winter low is about 40° F., the average summer high about 68° F., with the long term annual average a moderate 54 degrees.

The long term average annual precipitation at Riddle varies between a low of .13 inches in July to a high of 5.56 inches in January with an annual average of 32.48 inches. Flooding of the South Umpqua River during the winter months is common. During the summer and early fall the flow of the river frequently is very low. Figure No. 1 depicts the typical weather pattern of Douglas County and the usual peak in winter run-off of the Umpqua River near Elkton. The seasonal fluctuation in flow of the South Umpqua River is considerably more pronounced than that of the larger North Umpqua River.

F. Vegetative Cover

The privately owned lands within the project area are either agricultural lands or cut-over timber lands. The agricultural lands are of two types: (1) irrigated crop or pasture land, and (2) hillside pasture lands or

FIGURE NO.1



MONTHLY DISTRIBUTION OF PRECIPITATION, TEMPERATURE & RUNOFF

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dry farm lands. The privately owned cut-over timber lands have returned to brush and second growth timber on a ratio of about 50:50.

Approximately 60 percent of the BLM land in the area is forested with old growth timber; the remaining lands are in forest plantations, second growth timber, and brush lands.

G. Summary of Project Effects on BLM Lands and Programs

The total BLM land affected by the proposed project is approximately 40,500 acres. This acreage represents 40 percent of the total acreage in the BLM South Umpqua Timber Management area of the Roseburg District. The proposed project could be the largest single factor influencing future BLM management in the area.

Approximately 818 acres of BLM land would be inundated by the proposed reservoir, occupied by new road rights-of-way, or located in the narrow strip between the perimeter roads and maximum pool flow line. Of this 818 acres, 643 acres are commercial forest land supporting 18 million board feet of timber. This BLM land would be lost to future timber production.

PHOTOS 4&5

SOUTH UMPQUA RIVER ABOVE PROPOSED DAM

TYPICAL BOTTOM LAND PASTURE WHICH WOULD BE INUNDATED

About 7,800 acres of BLM timber land are in the primary and secondary aesthetic zones. Seventy-five percent of the commercial timber would be lost from sustained yield production in the primary zone. In order to adhere to landscape management goals, BLM would also incur extra logging costs on the remaining 25 percent in this zone and on all of the commercial timber in the secondary zone.

Major changes in the location of State Highway 227 and several BLM access roads would be required. Validity determination would be needed on unpatented mining claims. Inundated or destroyed public land survey corners would have to be replaced. Fish passage facilities should be installed. Special measures will be required to fully protect watershed values and prevent erosion and sedimentation wherever soil disturbance occurs as a consequence of project construction.

II. EFFECTS OF PROPOSED PROJECT ON BLM LANDS, RESOURCES, AND PROGRAMS

A. Lands

1. Classification

All but 80 acres of the lands directly affected by the proposed project were reserved for permanent Federal management by the passage of the O&C Act of August 28, 1937. The 80 acres of public domain land are in the process of being classified for retention in public ownership and multiple use management.

BLM lands directly affected by the project are shown in Table I.

2. Area of BLM Land Removed from Timber Production by the Proposed Project

Based on a pool elevation of 1,050 feet above sea level, a total of 818 acres of BLM land would be taken out of production by the reservoir, perimeter roads, and the narrow strip between the perimeter roads and maximum flow line.

3. Existing Land Use Restrictions

BLM has issued leases, easements, and rights-of-way in the project area. The rights-of-way are listed in Table II.

The Corps of Engineers will be required to provide replacement access to the permittees where necessary.

TABLE I

BLM LAND DIRECTLY AFFECTED BY PROPOSED PROJECT

T. 30 S., R. 4 W.

Section	Subdivision	Acres	Type
15	Lot 16	32.65	O&C
21	Lot 2	39.80	"
23	Lots 13, 14, 15, 16	162.16	"
25	Lots 5, 8	75.12	"
27	NW¼Ne¼; N½NW¼	120.00	"
29	Lots 8, 9, 13; NW¼SE¼	152.35	"
35	Lots 5, 6: NW¼NE¼, N½NW¼; N½SW¼	215.35	"
	TOTAL	797.43	

T. 30 S., R. 3 W.

Section	Subdivision	Acres	Type
19	E½NE¼; SE¼	240.00	O&C
23	E½SE¼	80.00	"
25	NE¼SW¼; N½SE¼	120.00	"
27	NW¼NE¼; SW¼NW¼; NE¼SW¼	120.00	"
29	S½S½	160.00	"
31	Lot 1; NE¼; E½NW¼; NE¼SW¼; NW¼SE¼	410.38	"
33	NW¼NE¼; N½NW¼	120.00	"
34	NE¼SW¼	40.00	PD
	TOTAL	1,290.38	

T. 30 S., R. 2 W.

Section	Subdivision	Acres	Type
28	SE¼SE¼	40.00	PD
31	N½NE¼; NE¼NW¼	120.00	O&C
	TOTAL	160.00	

T. 31 S., R. 3 W.

Section	Subdivision	Acres	Type
3	Lots 3, 4, 5, 6, 7	203.61	O&C
	TOTAL	203.61	

Total Public Domain	80.00
Total O&C Land	2,371.42
Total BLM	2,451.42

TABLE II

OUTSTANDING RIGHTS-OF-WAY

Permittee	Type Easement	Identification Number	Date Approved	Duration	Annual Rental	Remarks
Douglas County	Road R/W	ORE 011286	--------	Indefinite	None	----------
Pacific Power	Power Line	ORE 01123	--------	----------	$5/yr	----------
Pacific Power	Power Line	ORE 01123	3/26/43	----------	$5/yr	Formerly RO22728
Pacific Power	Power Line	PP 281	3/29/23	----------	None	----------
Pacific Power	Power Line	ORE 01123	3/22/43	----------	$5/yr	Formerly RO22728
Ore. State Hwy. Dept.	Road R/W	ORE 01590	7/21/50	Indefinite	None	----------
Ore. State Hwy. Dept.	Road R/W	R 022984	--------	Indefinite	None	----------
Ore. State Hwy. Dept.	Road R/W	R 022983	7/26/46	Indefinite	None	----------
L. Michaels	Road R/W	R-798	3/25/65	Perpetual	None	Delete by amendment*
Longview Fibre	Road R/W	R-656	4/3/62	Perpetual	None	Delete by amendment*
Roseburg Lumber Co.	Road R/W	R-851	11/5/63	Perpetual	None	Delete by amendment*

* Delete by amendment that part of the agreement area which is inundated by reservoir.

4. County Zoning

There is no form of county zoning in the project area at present. Douglas County plans to zone this area by December 31, 1971; it probably will be zoned for agricultural and forest production.

5. Timber Trespass

No suspected timber trespass cases are on record in this area.

6. Grazing Leases

BLM currently has one grazing lease for 177 animal unit months of forage in the impact area. The lessee since 1965 has been Lawrence Michaels. At the current market value of $3.00 per animal unit month, value of annual forage production equals $531. This grazing lease would have to be cancelled or adjusted.

B. Forest Management

1. Flow Area of Reservoir

Approximately 818 acres of BLM land, of which 643 acres are commercial forest land supporting 18 million board feet of timber, are in the area to be inundated, occupied by new road rights-of-way, and in the narrow strip between the perimeter roads and the maximum pool flow line. This acreage will be removed from the allowable cut of the South Umpqua BLM forest management area.

The 18 million board feet of timber within this zone will be harvested prior to pool filling. The 643 acres of commercial timber land has an average growth rate of 380 board feet per acre per year. The annual timber production lost on this 643 acres will amount to 245,000 board feet per year. Based upon current stumpage values of $50 per thousand board feet, the permanent annual loss to the United States in timber production would approximate $12,250.

2. Landscape Management Areas

A landscape management plan will be necessary for the public and acquired land in the proposed reservoir area. This plan should consider three zones: (a) primary

aesthetic zone, (b) secondary aesthetic zone, and (c) background zone. (See Map No. 1.)

a. Primary Zone

The primary zone, containing approximately 800 acres of BLM land, of which 607 acres is commercial timber land, extends approximately 800 feet beyond the upper limits of the perimeter road rights-of-way. Primary management objectives within this zone will be the protection and maintenance of the aesthetic and natural environment of the area. The timber in this zone should be harvested only to the extent of maintaining a healthy stand of timber with emphasis on its aesthetic value. To accomplish this, only danger trees and unsightly dead, dying, diseased, or otherwise unattractive trees would be harvested. This would account for approximately 25 percent of the timber production capacity of the area; the remaining 75 percent would be lost from sustained yield timber production. Additional logging costs would be incurred in the primary zone because of the necessity of partial cutting and very selective logging systems to remove only the salvage material mentioned above. On steep

ground, the timber might have to be removed by cable logging systems to prevent damage to unstable slopes. Increased cost for extensive cleanup and added safety precautions while logging near a major travel route are also involved.

The loss of 75 percent of the timber yield in the primary zone, and the extra logging costs on the 25 percent of the timber volume that can be logged, has the following computed economic impact.

Commercial forest acres in primary zone		607 ac.
Annual net growth (607 ac. x 380 bd. ft./yr)		230 M bd. ft.
Annual net growth lost (230 M bd. ft. x 75%)		173 M bd. ft.
Annual dollar loss @ $50/M bd. ft.	$8,650	
Extra logging costs @ $20/M bd. ft. for 35 M bd. ft. logged per year	$ 700	
Total annual production loss and extra logging costs	$9,350	
Opportunity cost of $9,350 @ 5½%		$170,000

b. Secondary Zone

This zone contains 7,000 acres of BLM commercial forest land. BLM expects that there will be no loss in timber yield from this zone, but there will be

Additional logging costs incurred in strict observance of landscape management goals. The following is a list of current average South Umpqua logging costs and their increase due to the project.

	Cost Per Thousand Bd. Ft.	Percent Increase	Total Increase Per Thousand Bd. Ft.
Falling and bucking	$ 4.00	-	$ -
Yarding and loading	14.00	10	1.40
Transportation	6.00	10	.60
Road construction	4.00	-	-
Misc. incl. admin. erosion control, revegetation and cleanup	2.00		1.00
	$30.00		$3.00

The average size timber sale in the BLM South Umpqua forest management area is approximately 3 million board feet. One timber sale of 3 million board feet would be logged per year in the secondary zone. The annual loss for extra logging costs in the secondary zone would be $9,000 (3 M bd. ft. x $3 per bd. ft.).

c. Background Zone

BLM land in the background zone, although within

PHOTOS 6&7

TYPICAL BRUSHLAND ADJACENT TO PROPOSED RESERVOIR

OLD GROWTH DOUGLAS FIR AND CUTOVER TIMBER LAND ABOVE PROPOSED RESERVOIR

the watershed of the proposed reservoir, would not be seen from the reservoir or perimeter roads. However, extreme care must be taken in all Bureau activities and programs to minimize soil disturbance and maintain high water quality control.

BLM production losses and the increased logging costs in all zones are:

Zone	Acres	Commercial Forest Acres	Timber Volume MMBF	Production* Lost/yr MBF	Extra Logging Cost/yr	Total Value
Inundated	818	643	18	245	---	$12,250[1/]
Primary	800	607	15	173		8,650
					$ 700[2/]	700
Secondary	7,900	7,000	145	---	9,000[3/]	9,000
Background	31,710	---	580	---	---	---
	41,228	8,250	758	418	$9,700	$30,600

* Based on 380 bd. ft. net growth per year.

1/ Based on current stumpage values of $50 per M bd. ft.

2/ Based on $20/M bd. ft. for 35 M bd. ft.

3/ Based on $3/M bd. ft. for 3 M bd. ft.

C. Recreation

The southern part of Douglas County is lacking in water oriented recreation opportunities. Construction of the proposed Days Creek Dam would help fill this void. The reservoir area is in a highly scenic setting surrounded by forested mountains with a good variety of coniferous trees, hardwoods, brushlands, and open areas near the proposed reservoir.

Several potential recreation development sites have been identified adjacent to the proposed reservoir. Final determination of the location of these sites will be made after more information about the proposed project is available. The criteria used in the selection of these sites were steepness of terrain, usable acreage, and summer drawdown. The sites are divided into north side and south side as shown in Table III. Developments would include camping units, picnic areas, boat ramps, and recreation roads and trails at a level to be determined by an intensive recreation plan.

Three Douglas County parks along Interstate 5, which offer overnight camping, have shown a 30 percent increase in use from the 1968 to the 1969 season. Another park

TABLE III

POTENTIAL RECREATION DEVELOPMENT SITES

North Side

Site	Major Use	Location	Slope	Size[1/]	Remarks
1	Recreation & Boat Landing	Sec. 29, T. 30 S., R. 3 W.	5%	15 ac.	Best north side site. Proposed road must be relocated.
2	Recreation & Boat Landing	Sec. 28, T. 30 S., R. 3 W.	5%	13 ac.	Second best site on north side. Proposed road must be relocated.
3	Picnicking & Boat Landing	Sec. 28, T. 30 S., R. 3 W.	10%	7 ac.	Too small for extensive development. Proposed road must be relocated.
4	Boat Landing	Sec. 25, T. 30 S., R. 3 W.	5%	2 ac.	Two way landing in saddle of peninsula.

South Side

1	Recreation & Boat Landing	Sec. 35, %. 30 S., R. 3 W.	5-10%	16 ac.	Best and largest south side site.

1/ Acreage for initial intensive development. The acreage of each recreation area will be much larger, allowing for additional development and dispersed recreation use.

located along the North Umpqua highway route to Crater Lake showed a 74 percent increase in overnight use in one season. Sixty percent of the overnight use was contributed by traveling Californians.

High recreation pressure from people traveling along Interstate 5, those going to and from Crater Lake, and the local pressure from Douglas and Josephine Counties should maximize the recreation use of the proposed reservoir.

The present population of Douglas County is 74,150 (1990 projection - 95,000). Josephine County presently has 35,700 people (1990 projection - 58,000).

Table No. IV shows some average daily traffic counts at points along Interstate 5 (80 N) and along Highway 227 to Days Creek and Trail.

TABLE IV
Light Vehicle Use

Data Point	ADT*	Summer ADT	% Oregon Traffic	% Out Of State
Hwy 227 Canyonville to Trail	1,000-1,500	3,200	67%	33%
Interstate 5 - 7 miles north of Grants Pass	5,500	8,000	77%	23%
Interstate 5 - 4 miles north of Oakland	6,000	9,000	77%	23%

*ADT - Average Daily Traffic

One hindrance to recreation use of the proposed reservoir is the summer drawdown. Between May 31 and September 30, potential water drawdown could be 45 feet. Final selection of recreation sites will depend heavily on the length of mud flats during the summer recreation season. Water storage levels should be kept as high as possible during the summer in order to maximize recreation use.

Integrated resource management of the reservoir area and surrounding public and acquired land is needed to achieve maximum resource benefits. The Bureau of Land Management is the major land management agency in the vicinity of the project and is willing to assume responsibility for construction, operation, and maintenance of the recreation facilities developed in connection with the project.

Douglas County has a strong recreation program as evidenced by the quality and quantity of its parks. Douglas County's cooperation with Federal agencies, particularly with BLM in resource programs, has been excellent. BLM will coordinate its resource management program in the reservoir area with the county.

The Carl Hill Memorial Wayside, which is a Douglas County recreational facility, would be lost to the project. This is the only public recreational facility which will be inundated by the proposed reservoir.

The pleasing appearance of present natural features, especially those visible from the reservoir, must be preserved during and after construction. Existing facilities which are not pleasing in appearance must be upgraded.

D. Fish and Wildlife

The South Umpqua River and its tributaries are important spawning areas for coho and chinook salmon and winter steelhead trout. These anadromous fish spawn primarily above the proposed Days Creek Dam site. There are approximately 722 miles of stream above the proposed dam site of which about 131 miles are usable by anadromous fish as spawning areas. Within the proposed reservoir area, there are about 18 miles of the main stem South Umpqua River and about 11 miles of tributary streams used by anadromous fish. These 29 miles of usable stream area will be rendered unusable by inundation. This important area and resource indicates the need for fish passage facilities at the proposed dam.

The development of a reservoir fishery within the proposed impoundment will probably require chemical treatment of rough fish upstream from the dam site. If so, this cost should be included as a project cost.

The Bureau of Sport Fisheries and Wildlife report on this proposed project has not yet been completed. Comments on it will be made when it is available.

E. Mining Claims

Douglas County does not have a tract index for mining claims. BLM district records indicate that 14 mining claims exist in the proposed project area. Validity determination would be necessary on these claims. It is estimated that hearings will be held on 2 of the 14 claims. Validity determination, which is performed on a reimbursable basis, will cost approximately $500 per claim. Hearing costs should also amount to $500 per claim.

Estimate of Costs:

a. Validity determination on 14 claims @ $500 each	$ 7,000
b. Hearing costs on 2 claims @ $500 each	$ 1,000
Subtotal	$ 8,000
Overhead charges	$ 2,000
Total estimated reimbursable charges	$10,000

Sufficient notice should be given in order for BLM to program the necessary manpower required for the minerals work.

F. Cadastral Surveys

Twenty-nine public land survey monuments will be inundated by the proposed Days Creek Reservoir. Forty miles of property line must be surveyed in order to reference the corners to be inundated. BLM will do this survey for the Corps of Engineers on a reimbursable basis. The cost of the survey will approximate $50,000 and should be chargeable to the project. BLM, if requested by the Corps, will also survey the project boundary on a reimbursable basis. This cost, including surcharge, will amount to approximately $1,250 per mile of line surveyed.

G. Resource Protection

The BLM land within the proposed project area is protected under contract by the Douglas Forest Protective Association. The increased public use of the project area resulting from new road and recreational facility construction will require more intensive protection. However, any additional protection costs will probably be offset by the construction of roads on both sides of the proposed reservoir. These roads will provide improved access and also decrease initial attack time in case of wild fire. This is of particular significance as the proposed Days Creek Reservoir area is within a known lightning belt. To achieve maximum protection of the area, the following conditions should be adhered to during planning and construction phases of the proposed project.

1. Perimeter roads should be completed prior to the reservoir clearing operation. These will serve as access roads and as fire breaks.
2. Connector roads between perimeter roads and BLM timber access roads should be constructed prior to pool area clearing.

3. Salvage logging on peripheral lands should be done in conjunction with right-of-way and pool area clearing so that slash disposal can be completed on all areas at the same time.

H. Soils and Watersheds

The following comments are based on an investigation of soils in the vicinity of proposed road locations and soils in major tributaries to the reservoir.

1. Sweat Creek

Two associated soils occur along BLM's existing road 30-4-21 (SE¼SE¼, Sec. 29, T. 30 S., R. 4 W.). The Josephine soils are found on steep mountainous slopes ranging from 12 to 70 percent and underlain by metamorphosed sandstone and shale bedrock of the Galice formation. They typically have dark reddish brown loam surfaces and reddish brown to yellowish red clay loam subsoils. Depth to bedrock is commonly between 25 and 40 inches.

The associated unnamed soil is underlain by thinly bedded sandstone and shale at 20 to 40 inches. This soil has typically brown silty loam surfaces and brown silty clay loam subsoils.

When disturbed, these soils are susceptible to high runoff, erosion, and slumping.

2. Slimwater Creek

Like soils in Sweat Creek, soils along road 30-4-22

in Sec. 22 and 26 are developing from shales. Bedding of the shale is more folded than along Sweat Creek Road. A small area of deep, grayish-brown silty clay soil is developing in unconsolidated mudstone in the SE¼SE¼, Sec. 22, T. 30 S., R. 4 W. Besides a moderate amount of erosion in side ditches, the mudstone is stable; however, if this soil is found on steep slopes, slumping can be expected.

3. St. Johns Creek

Soils in the St. Johns Creek watershed are similar to those in 1 and 2. Soils are generally 20 inches deep on 50 to 75 percent slopes. Shales appear to be more strongly metamorphosed.

4. Corn Creek

Most of the west side of the Corn Creek watershed in Sections 23 and 14 is composed of deeply weathered intrusive granite. Soils are brown to light brown, deep on slopes less than 30 percent, clay loam to silty clay texture in the B horizon. Experience from logging roads built in granite saprolite have shown that side cast is highly erosive. High sediment yields can be expected from disturbed soils in this area.

The following general statement summarizes soil conditions that may affect the Days Creek reservoir.

a. No large obvious sources of clay that would lead to a reservoir turbidity problem were found below Tiller.

b. More unstable clay soils occur along the South Umpqua River above Tiller than below. Studies of the proposed Tiller Dam indicate that high sediment yields plus turbidity problems could be expected from the upper reaches of the South Umpqua and Jackson Creek.

c. Corn Creek and possibly the lower reaches of Stouts Creek could be high sediment producing streams. Deeply weathered granitic rock in these drainages are highly erosive when disturbed. However, this sediment should not produce any prolonged reservoir turbidity.

d. Deep, red, clay soils have derived from shale of the Galice formation. These soils are scattered south of the impoundment. Locating roads on these soils should be avoided wherever possible because they will undoubtedly slump. They could also produce turbidity in the reservoir if not properly managed.

e. To avoid erosion, intensive management of the watershed above Tiller is essential. Otherwise the reservoir may remain turbid for extended periods after high water carries sediment from the upper watershed.

I. Roads

Present Roads

A total of 8.5 miles of BLM roads would be inundated by the proposed reservoir. These lengths of roads have a value in excess of $230,000. Provisions for a state highway on the north side, a two lane road of BLM class DN 36 (double lane, normal traffic, 36 foot subgrade before surfacing) on the sough side, and connectors from these roads to BLM timber access roads would mitigate the loss of existing access.

The cost of constructing an estimated 4.3 miles of road to connect perimeter roads and existing BLM access roads is estimated to $150,000.

The following photo depicts the typical BLM road of standard SN 20 (single lane, normal traffic, 20 foot subgrade before surfacing) which will be inundated by the reservoir. It also typifies the standard of connector roads which must be built to restore use to inundated roads.

Impact Area Road Construction

Future road construction plans and construction within the project impact area must be integrated with the

PHOTOS 8&9

TYPICAL BLM ROAD WHICH WOULD BE INUNDATED BY THE PROPOSED RESERVOIR

TYPE OF TIMBER ACCESS BRIDGE PLANNED FOR CONSTRUCTION BY BLM ACROSS SOUTH UMPQUA RIVER IN AREA TO BE INUNDATED

other resource values, including scenic values, so that the end result is the least detrimental, and if possible, complementary. Roads should be located so that construction scars are invisible from the reservoir area or are minimized. Road construction measures such as additional end-hauling of fill material, cut and fill mulching and revegetation, riprapping, provisions for adequate drainage, and proper culvert installations will be necessary. Other considerations such as timbered buffer strips, scenic vista areas, and proper locations to service recreation users must be included.

Proposed BLM Road Projects

The BLM program requires construction in the immediate future of a bridge and a road to provide access to the Poole Creek drainage. The bridge will be a single lane structure across the South Umpqua River, similar to the bridge owned by Roseburg Lumber Company which provides access to Stouts Creek (Photo No. 9). Both this bridge and road would be inundated by the reservoir. However, road access to the Poole Creek drainage will be provided as part of the reservoir project mitigating the loss of the BLM investments. A proposed Coffee Creek-Corn Creek access road is also planned. This access road,

would not be completely lost but would require a connection with the reservoir perimeter road. Both projects are planned for construction during fiscal year 1972.

Comparison of Timber Hauling Cost

The dollar difference in transporting the tributary timber over the present road system as compared with the proposed road system is shown in Table V.

TABLE V

Timber Hauling Cost

Drainage	New Time	Old Time	Time Difference	Dollar Difference	Volume	Cost
Beals Cr.	15.1	13.7	+ 1.4	+ $ .05	22 MM	+ $ 1,100
Shively Cr.	40.6	48.0	- 7.4	- .25	93	- 23,250
Poole Cr.	34.1	23.6	+ 10.5	+ .35	18	+ 6,300
Stouts Cr.	49.6	36.8	+ 12.8	+ .43	196	+ 84,280
St. John Cr.	30.6	29.4	+ 1.2	+ .04	31	+ 1,240
Corn Cr.	38.7	38.6	+ 0.1	---	191	---
Deadman Cr.	54.4	49.0	+ 5.4	+ $ .18	257	+ $ 46,260
					808	
			Total Timber Hauling Cost Difference			+ $115,930

This represents an average increased hauling cost of 14.3¢ per M bd. ft. at an annual harvest of 38.3 MM bd. ft. per year. This is an increased cost of $5,477 per year.

III. IMPACT OF PROJECT ON BLM PROGRAM - FINANCIAL SUMMARY

A. Reimbursable Expenses to BLM by Sponsoring Agency

1. Mining claims	$ 10,000
2. Cadastral surveys	$ 50,000
3. Road approaches to restore access	$150,000

B. Irreplaceable Resources

1. Timber production lost per year

Inundated zone	$12,250	
Primary zone	8,650	
Total	$20,900	
Opportunity cost of $20,900 @ 5½%		$380,000

2. Grazing revenue lost

$531 per year	
Opportunity cost of $531/yr @ 5½%	$ 9,655

3. Mining claim and mineral loss ---

C. Effects on BLM Program Cost

1. Additional logging costs per year

Primary zone	$ 700	
Secondary zone	9,000	
	$ 9,700	
Opportunity cost of $9,700/yr @ 5½%		$176,363

2. Additional hauling costs

$5,477 per year increase	
Opportunity cost @ 5½%	$ 99,582
GRAND TOTAL	$875,600

D. Benefits

The Corps of Engineers' proposal to construct a road on the south side of the reservoir would be a large benefit to BLM. BLM would save an estimated $500,000 in road construction, bridge construction, transportation, and easement acquisitions if the south side road is constructed as a part of the project. If the project is not approved, BLM will eventually be required to develop access along the entire south perimeter of the project to the United States Forest Service boundary.

The south side road would also ~~mitigate~~ eliminate the need for a bridge across the South Umpqua River at Poole Creek and the 2 miles of initial road development into that drainage.

The recreational attraction of the proposed reservoir would fill a need in an area lacking in water oriented recreation resources in Douglas County.

IV. GENERAL PROVISIONS AND RECOMMENDATIONS

In the event the project is authorized for construction, BLM's preliminary views and recommendations are as follows:

A. BLM would continue to manage the BLM land above maximum pool elevation within the proposed project area. BLM also is willing to assume full management responsibility for all acquired project land above maximum pool elevation. As a minimum, all private land between the proposed perimeter roads and the reservoir should be acquired.

B. BLM lands in the project area were dedicated to permanent Federal management by the O&C Act of August 28, 1937. No additional withdrawals are necessary to protect the land for project purposes, except to segregate them from mineral entry.

C. BLM land will be managed for multiple use purposes with the aesthetic value in the area receiving major consideration. Timber harvesting will be decreased in forest zones visable from the reservoir and perimeter roads. Timber harvesting procedures will be modified in these zones in order to provide maximum protection to reserve timber, streams, soil cover, and other values. A landscape management plan will be necessary to insure full

protection of resources in the impact area. Acquisition of scenic easements on private land outside of the proposed project area may be advisable.

D. The 643 acres of BLM commercial forest land which will be inundated or occupied by new roads supports a presently merchantable timber volume of 18 million board feet. Based on current values, this volume represents a marketable resource worth approximately $900,000 which if not marketed would become an additional loss attributable to the project. If the project is authorized BLM must be given sufficient advance notice so that orderly disposal of the merchantable timber can be accomplished prior to construction activities.

E. Proposed perimeter roads and connection roads should be constructed prior to reservoir clearing operations.

F. Power line rights-of-way should be relocated in accordance with aesthetic guidelines covered in the landscape management plan suggested in C above.

G. If the project is authorized, a working agreement should be consummated between the Corps of Engineers and BLM to cover such items as (1) fire protection of the area during the construction period; (2) supervision of clearing operations, road and dam construction, and

power line relocations so as to protect aesthetic values, retain scenic corridors, and provide for the rehabilitation of landscape scars; (3) provision for physical access to facilitate BLM resource development and management activities; (4) planning and construction of replacement roads; (5) provision for adequate notice to BLM to plan and implement the necessary project related cadastral survey and mining claim validity determination work.

Aesthetic considerations are very important because of the high recreation potential on and around the proposed reservoir. Borrow areas, spoil areas, and other surface disturbing operations should be limited to elevations below the minimum pool level to the extent practicable; unavoidable disturbance above minimum pool level should be restored as nearly as possible to its natural appearance.

R. 5 W. R. 4 W. R. 3 W. R. 2 W. R. 1 W.

T. 28 S.

T. 29 S.

T. 30 S.

T. 31 S.

PRIMARY ZONE

SECONDARY ZONE

BACKGROUND ZONE

INITIAL RECREATION DEVELOPMENT SITES

B L M LANDS

U S F S LANDS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DAYS CREEK RESERVOIR PROJECT
SOUTH UMPQUA RIVER

LAND USE ZONE MAP

SCALE: ½ " = 1 MILE

MAP 1

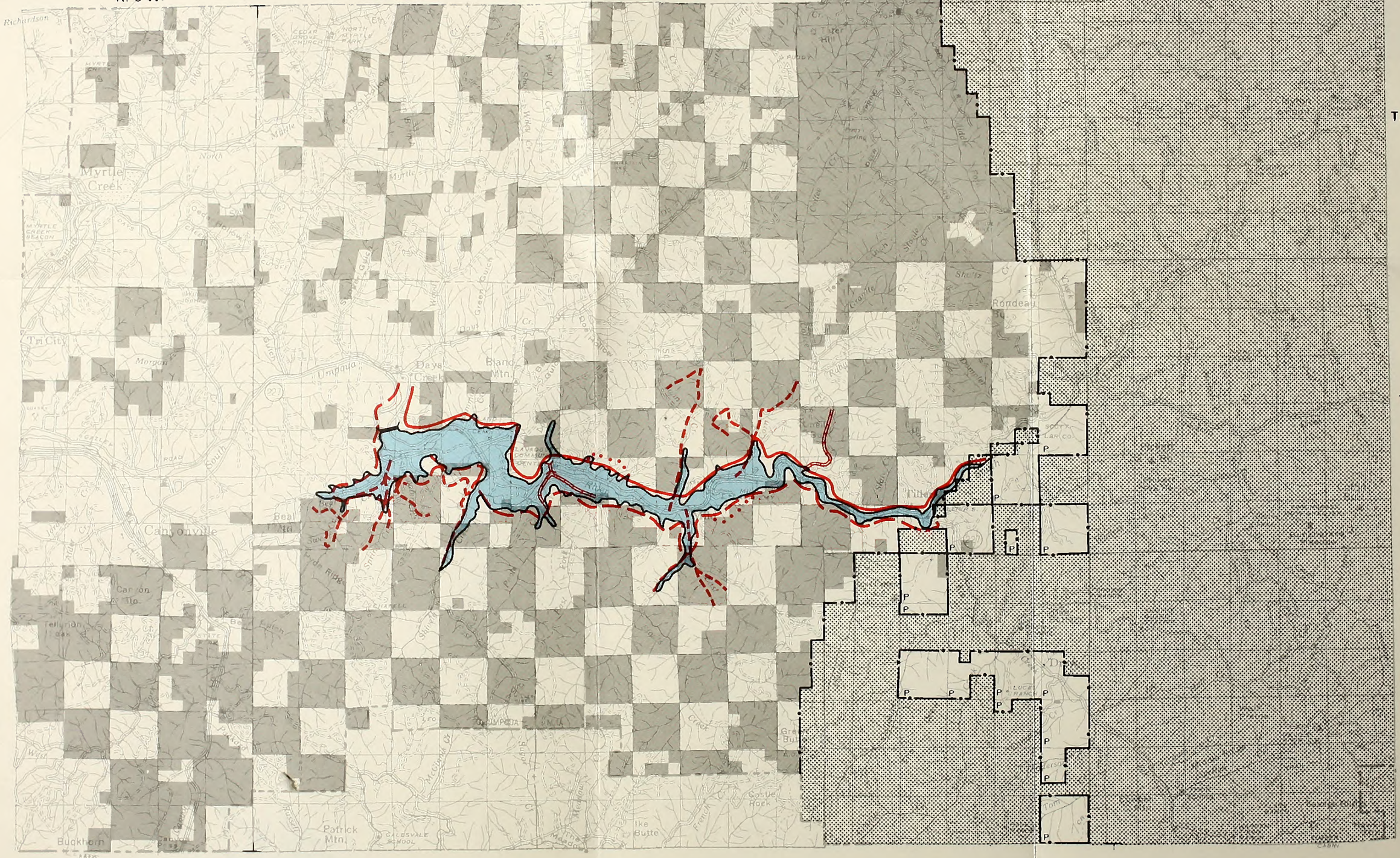
R. 5 W. R. 4 W. R. 3 W. R. 2 W. R. 1 W.

T. 28 S.

T. 29 S.

T. 30 S.

T. 31 S.


Myrtle Creek
Tri City
Canyonville
Days Creek
Bland Mtn.
Rondeau
Tiller
Patrick Mtn.
Ike Butte
Castle Rock
Buckhorn Mtn.
Richardson
Morgan
Beal Mtn.
Carron Mtn.
Red Rock Ridge
Shively Ridge
Dixon Ridge
Lucas Ranch
Gales Creek
Mc Donald Creek
Mc Donald Peak
Mc Donald Ridge
Mc Donald Flat
Mc Donald Butte
Mc Donald Mtn.
Mc Donald Pass
Mc Donald Trail
Mc Donald Lookout
Mc Donald Campground
Mc Donald Forest
Mc Donald Wilderness
Mc Donald Peak Trail
Mc Donald Peak Lookout
Mc Donald Peak Campground
Mc Donald Peak Forest
Mc Donald Peak

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